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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Stripping/2014-15

06.05.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	06.05.2014

Type of binder : 60/70

Percentage of binder used : 5.0% by wt.

Total weight of aggregate : 200 g

Total weight of binder : 10.0 g

Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.1	3.20	96.80
2	3.2		
3	3.3		

Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

Note:

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Sp_Wa/2014-15

06.05.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Source / Location	Hotmix Plant, Bangalore
Date of Testing	06.05.2014

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2019	2020	2021	
2	Weight of basket suspended in water	W_2 g	755	2020	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1264	1265	1266	
4	Weight of saturated surface dry aggregate in air	W_3 g	2019	2025	2020	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	755	760	754	
6	Weight of oven dried aggregate	W_4 g	2010	2006	2009	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.662	2.639	2.664	2.655
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.694	2.707	2.704	2.702
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.45%	0.95%	0.55%	0.65%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Bit/2014-15

06.05.2014

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC:SP:-11-1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17.
DATE OF TESTING	06.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475.5	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24.5	26.00
7. Bitumen content in %	4.90	5.20
8. Average	**5.05**	

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/Bit/2014-15

06.05.2014

BITUMEN CONTENT GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17.
DATE OF TESTING	06.05.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	32.33	6.80	6.80	93.20	90-100
4.75	252.3	53.06	59.86	40.14	35-51
2.36	54.36	11.43	71.29	28.71	24-39
1.18	41.22	8.67	79.96	20.04	15-30
0.3	33.13	6.97	86.93	13.07	9-19
0.075	26.31	5.53	92.46	7.54	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.65	5.41	5.41	94.59	90-100
4.75	259.3	54.70	60.12	39.88	35-51
2.36	52.32	11.04	71.15	28.85	24-39
1.18	34.21	7.22	78.37	21.63	15-30
0.3	31.22	6.59	84.96	15.04	9-19
0.075	39.65	8.36	93.32	6.68	3-8

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Job No.: CTCE/BBMP/W.No.17/KS/SDBC/AGG/2014-15

06.05.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	06.05.2014

Total Weight of Sample: **5100** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	430	8.4	8.43	91.57	90-100	
4.75	2650	52.0	60.39	39.61	35-51	
2.36	620	12.2	72.55	27.45	24-39	
1.18	490	9.6	82.16	17.84	15-30	
0.3	380	7.5	89.61	10.39	9-19	
0.075	250	4.9	94.51	5.49	3-8	

Total Weight of Sample: **5150** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	350	6.8	6.80	93.20	90-100	
4.75	2405	46.7	53.50	46.50	35-51	
2.36	1010	19.6	73.11	26.89	24-39	
1.18	520	10.1	83.20	16.80	15-30	
0.3	300	5.8	89.03	10.97	9-19	
0.075	315	6.1	95.15	4.85	3-8	

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